



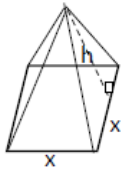
NALANDA COLLEGE - COLOMBO 10

Grade 11 Mathematics Unit Test

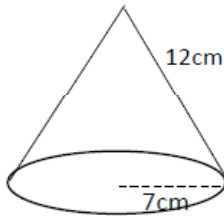
4) Surface Area of Solids

Part I

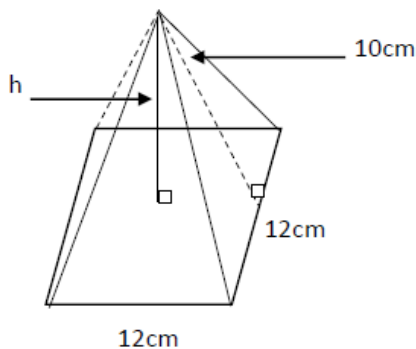
- In a square based right pyramid, the length of a side 12cm and the perpendicular height of a triangular face is 10m. Find the total surface area of the pyramid.
- The base length of a square based right pyramid is x cm and the perpendicular height of a triangular face is h cm. Find the total surface area of the pyramid in terms of x and y .



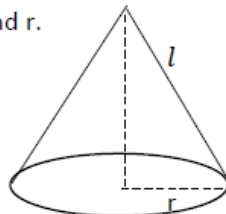
- Find the total surface area of the given cone.



- The base length of a square based right pyramid is 12cm and the perpendicular height of a triangular face is 10cm. Find the perpendicular height of the pyramid.

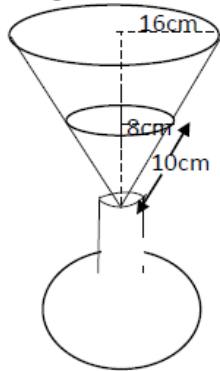


- Shown in the figure is a solid right circular cone. Its radius r cm and slant height l cm. Find the total surface area of the cone in terms of l and r .

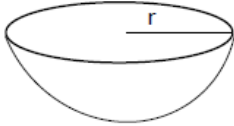




6. The surface area of a square based right pyramid is 528cm^2 . If the area of the square base is 144cm^2 , find the area of a triangular face.
7. Shown in the figure, is a thin glass container is the shape of a cone filled with water. Find the area of the region on the glass surface that is in contact with water.



8. Find the radius of a sphere of surface area 2464cm^2 .
9. Shown in the figure is a solid hemisphere. Find the total surface area of it in terms of r .

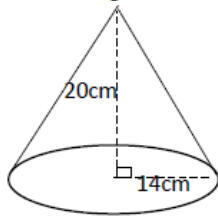


10. Find the surface area of a solid hemisphere of radius 0.5m.

Part II

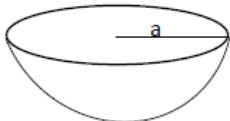
- 1) The surface area of a square based right pyramid is 896cm^2 . If the length of a side of the base is 16cm,
 - i. the area of the square base
 - ii. the area of a triangular face
 - iii. the perpendicular height of a triangular face
 - iv. the perpendicular height of the pyramid. (Represent the answer as a surd)

- 2) Shown in the figure is a cone.



- i. Find the slant height of the cone.
- ii. Find the area of the base.
- iii. Find the total surface area of the cone.

- 3) a) Shown in the figure, is a solid hemisphere of radius a cm.



- i. Show that the total surface area of the hemisphere is $3\pi a^2$.
- ii. Find the total surface area of a solid hemisphere of radius 7 cm.

- b) i. Find the radius of a sphere of surface area 154cm^2 .
- ii. Find the external surface area of a solid cone of radius 0.75m.